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## Meat and Muscle Biology™



## Fatty Acid Profile of Nellore Bulls Supplemented With Different Fat Sources during Feedlot Finishing

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### Objectives

Inclusion of lipids in finishing diets may improve feed efficiency and improve carcass quality. The objective of this study was to evaluate the effects of supplementation of different fat sources in the diet on meat fatty acids profile of feedlot Nellore cattle.

### Materials and Methods

Nellore bulls ( $n = 96$ ), with an initial body weight of  $399.90 \pm 19.32$ , were divided into 24 pens, where pen was considered the experimental unit. The experiment was a randomized block design, divided in 4 treatments: 1- with addition of natural sources of fat, from cottonseed and corn germ; 2- including a source of by-pass fat from soybean oil; 3- with inclusion of a combination of by-pass fat from one *blend* of vegetable sources and 4- with addition of natural sources of fat, from cottonseed, corn germ and combination of by-pass fat from one *blend* of vegetable sources. Feed and water were supplied ad libitum. After 108-d of feeding, animals were slaughtered, and samples of the *Longissimos dorsi* muscle were collected for fatty acid analysis.

### Results

Treatments containing natural sources of fat had greater levels ( $P < 0.001$ ) of stearic fatty acid (C18:0), compared to all other treatments. Inclusion of by-pass soybean oil led to greater ( $P < 0.001$ ) levels of CLA cis9-trans11 compared to all other treatments. Diets which included by-pass soybean oil and natural fats did not differ ( $P > 0.05$ ) in CLA cis7-trans9, but were greater ( $P < 0.05$ ) than all other treatments. Increasing unsaturated fatty acids in meat, like CLA, is perceived to be desirable to consumers due to potential positive impacts on health.

### Conclusion

In conclusion, treatments with inclusion of by-pass fat presented less concentration of stearic fatty acid. The results of this study indicate that meat fatty acid composition may be influenced by feedlot fat supplements. Therefore, there exists potential toward producing meat products with targeted fatty acid composition that meets consumer preferences.